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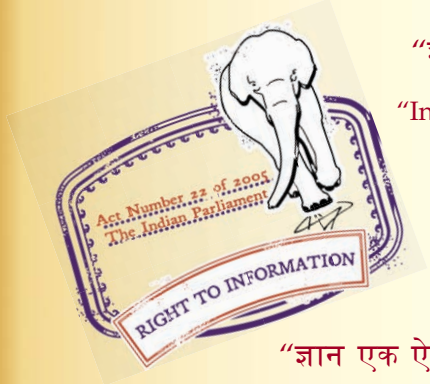
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 10514 (1983): Split Taper Socket for Tools with Parallel Shank and Driving Tenon [PGD 32: Cutting tools]



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Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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UDC 621·9-229·211·6

(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR SPLIT TAPER SOCKET FOR TOOLS WITH PARALLEL SHANK AND DRIVING TENON

[Ref : Doc : EDC 45 (2692)]
Small Tools Sectional Committee, EDC 45 ; Twist Drills, Reamers, Tapers, Sockets, Screws, Adapters Subcommittee, EDC 45 : 1

1. Scope — Covers the dimensions and other requirements for split taper sockets for tools with parallel shank and driving tenon (*see* IS : 5360-1969 Dimensions for driving tenons).

2. Dimensions — Shall be as given in Tables 1 and 2.

3. Permissible Radial Run-out Error — Shall be as given in Table 3.

4. Material — Shall be alloy steel such as 50 Cr4 V2 as per IS : 3930-1979 'Specification for flame and induction hardening steels (*first revision*)' or T55 Si7M03 in accordance with IS : 3749-1978 'Tool and die steels for cold work (*first revision*)'.

5. Hardness — Tapered portion and bore of sockets shall have a hardness from 590 HV to 670 HV. The remaining portion shall have a hardness of 400 HV *Min.*

6. General Requirements

6.1 Dimensions for morse taper with tanged end shanks shall be according to IS : 1715-1973 'Dimensions for self holding tapers (*first revision*)'.

6.2 Tolerances on dimensions without specified tolerances shall be 'medium' according to IS : 2102 (Part I)-1980 'General tolerances for dimensions and form and position : Part I General tolerances for linear and angular dimensions (*second revision*)'.

6.3 The shape of the slot is optional and is left to the discretion of the manufacturer.

7. Tolerance on Tapers — Shall be as given in Table 4.

7.1 The tolerance on tapers which is the difference of d_A and d_B in the measuring plane A and B shall not be smaller than the given values ($d_A - d_B$) and not bigger than ($d_A - d_B$) + AT_D .

7.1.1 The tolerance AT_D is calculated with the taper angle tolerance AT according to formula $AT_D = \frac{AT\alpha}{10^6} l_P$ [*see also* IS : 2102 (Part I)-1980].

7.2 The taper length l_P is selected such that the distance of measuring plane B from small diameter of taper is approximately the distance *a* of measuring plane A from big diameter of taper.

7.3 The tolerance covers straightness and circularity tolerances.

8. Designation — A split taper socket for tools with parallel shank and driving tenon with taper MT 2 for tools with shank diameter d = 8 mm and conforming to this standard shall be designated as :

Split Taper Socket MT 2 x 8 IS : 10514

9. Workmanship and Finish — The split taper socket shall be manufactured in one piece and shall be free from burrs, scales, deeplines, tool marks and other manufacturing defects.

10. Marking — Shall be marked with the designating size and manufacturers' name or trade-mark.

10.1 *ISI Certification Mark* — Details available with the Indian Standards Institution.

11. Sampling — The sampling and criteria of acceptance shall be according to IS : 7778-1975 'Method for sampling small tools'.

12. Preservative Coating and Packing — Each split taper socket shall be covered with a suitable rust proofing and wrapped in non-absorbent paper. It shall then be packed in cartons; each carton shall contain only one size of sockets. The size shall be indicated on the cartons.

Adopted 25 March 1983 | | Gr 2

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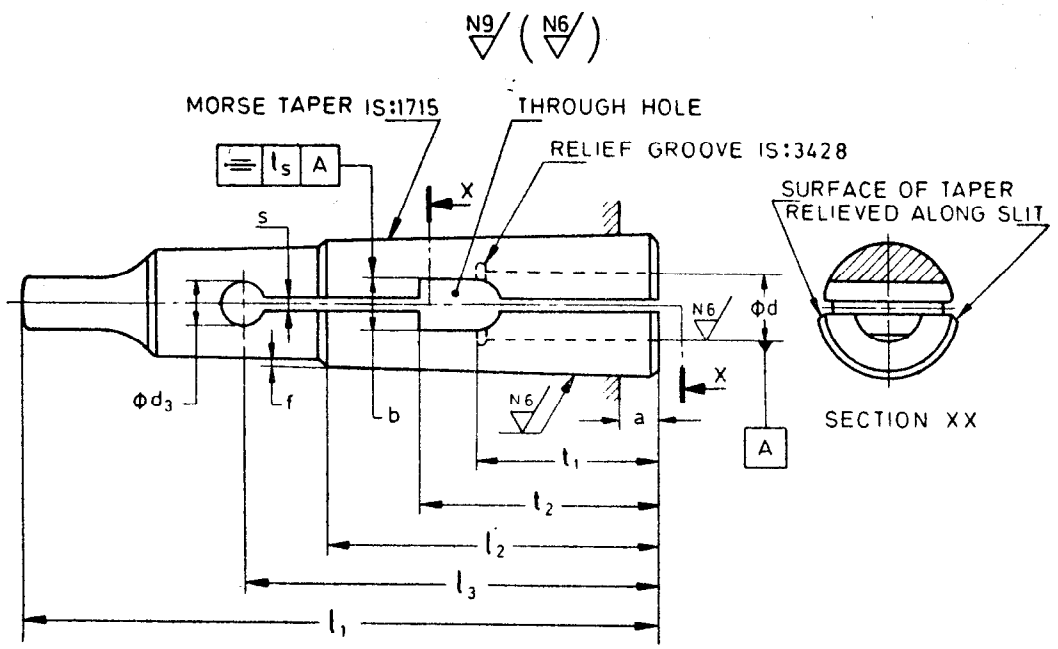
TABLE 1 DIMENSIONS OF SPLIT TAPER SOCKETS FOR TOOLS WITH PARALLEL SHANK AND DRIVING TENON

(*Clause* 2)



All dimensions in millimetres.

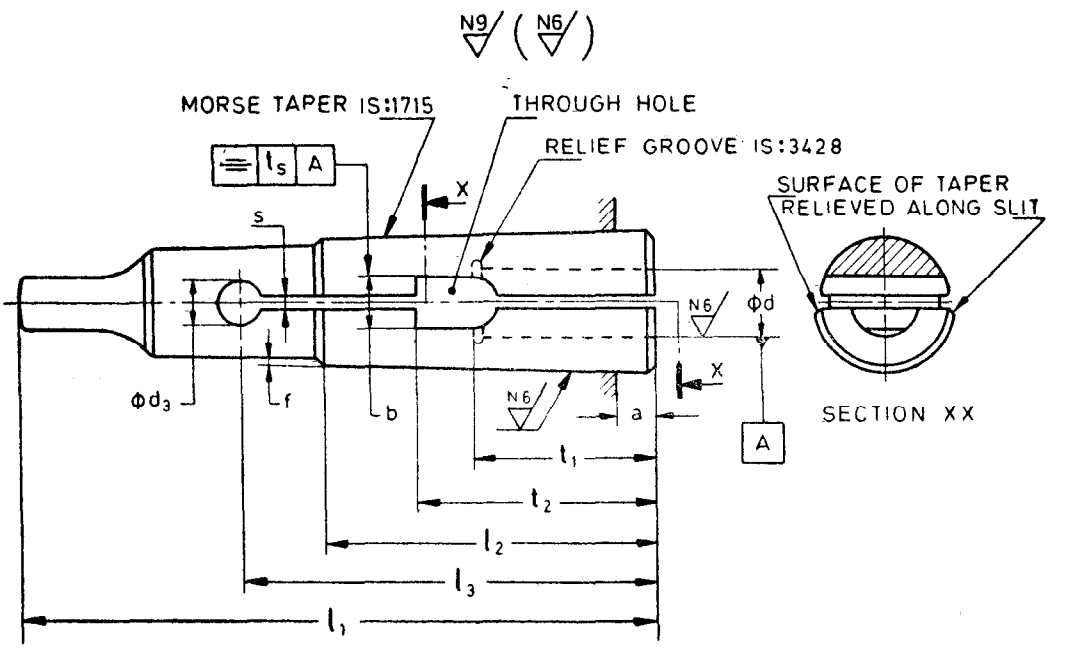
Range of Dia *d*H7	From	1·6	2·9	3·5	4	4·5	5·5	6·5	8	9·5	11	13	15	18	21	24	27
	Up to	2·9	3·5	4	4·5	5·5	6·5	8	9·5	11	13	15	18	21	24	27	30
b H11		—	1·8	2·2	2·4	2·7	3·2	3·8	4·8	5·3	6·3	7·4	8·4	10·4	11·4	13·4	14·5
MT 0	a	3					—		—			—		—		—	
	l_1	59·5															
	l_2	32															
MT 1	a	—	3·5						—			—		—		—	
	l_1		65·5														
	l_2		36														
MT 2	a	—	—				5					—		—		—	
	l_1						80										
	l_2						42										
MT 3	a	—	—			—			5					—		—	
	l_1								99								
	l_2								50								
MT 4	a	—	—			—			—			6·5				—	
	l_1											124					
	l_2											63					
MT 5	a		—			—			—			—		6·5			
	l_1													156			
	l_2													80			
t_1		16	20			22			25	28		32		36	40	45	50
t_2		—	25		26		29		33	37	39	44	46	53	58	67	73
t_s		—	0·040		0·048				0·058			0·070				0·084	

For dimensions d_3, l_3, f and s refer Table 2.

TABLE 2 DIMENSIONS FOR SPLIT TAPER SOCKET FOR TOOLS WITH PARALLEL SHANK AND DRIVING TENON

(*Clause* 2)

All dimensions in millimetres.

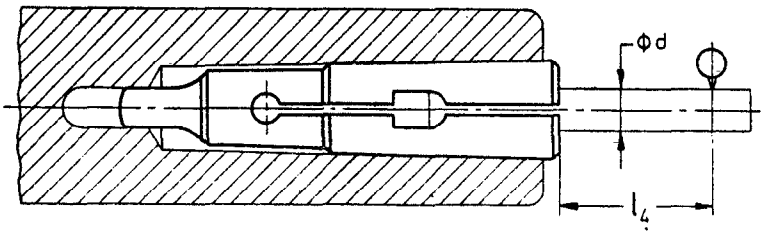


Range of Dia	From	1·6	3	5·5	8	13	18
	Upto and including	5·5	8	13	18	21	30
Morse Taper		MT0	MT1	MT2	MT3	MT4	MT5
	d_3	3	4	5	6	8	10
	l_3	40	44	52	63	80	103
	f		0·2			0·4	
	s	0·8	1	1·2	1·6	2	

TABLE 3 PERMISSIBLE RADIAL RUN OUT ERROR

(*Clause* 3)

All dimensions in millimetres.

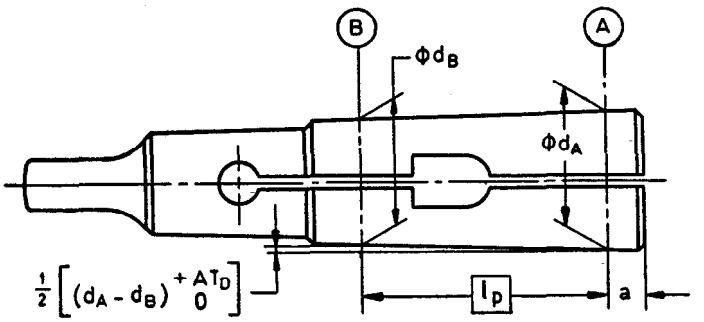


Range of Test Bar Diameters d h5 Over	Upto and Including	l_4	Permissible Runout
From 1·6	3	10	0·03
3	6	16	
6	10	25	
10	18	40	
18	24	50	0·04
24	30	60	

TABLE 4 TOLERANCE ON TAPERS

(Clause 7)

All dimensions in millimetres.



Taper	d_A	$d_A - d_B$	l_P	AT_D
MT 0	9·045	1·353	26	0·007
MT 1	12·065	1·447	29	0·008
MT 2	17·780	1·598	32	
MT 3	23·825	2·008	40	0·010
MT 4	31·267	2·597	50	
MT 5	44·399	3·526	67	0·011

EXPLANATORY NOTE

In the preparation of this standard considerable assistance has be drawn from DIN 6329-1981 'Sockets for parallel shank tools with driving tenons' issued by the Deutsches Institut für Normung (DIN).

Printed at Printrade, New Delhi, India